EITVOX

It's Not a New Miracle Drug …

… But It Could Be

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Let's start with the assumption that you need to get involved in Process Improvement

It almost goes without saying that you can't improve something if you don't know what that something is that you're trying to improve.

Conclusion # 1 – If you haven't done so already, start by documenting and understanding what you're doing now

Assume you've described and improved your processes, then what?

Unless your process descriptions are clearly written, easy to follow, and available when needed, your documentation is just shelfware

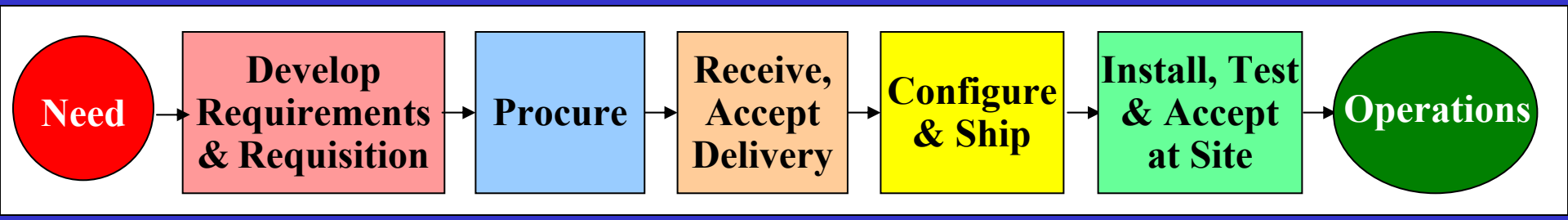
Conclusion # 2 – Following process documentation should be as close as possible to following the process itself

Standard Approaches to Process Documentation

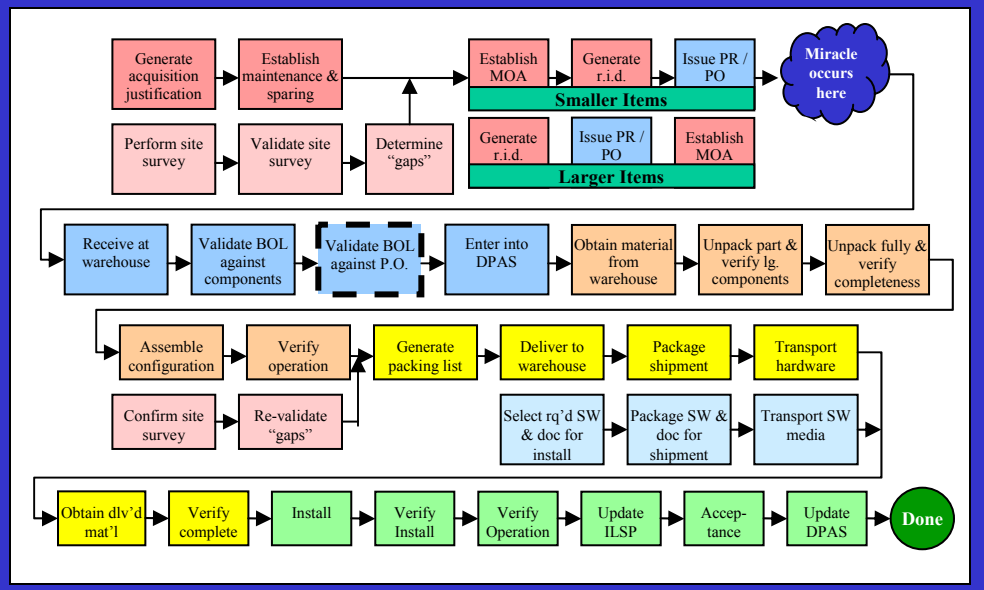
Process Tools – The Usual Suspects

- Flow Charts / IDEFs
- Gantt Charts / PERT Charts
- Org Charts
- Process Descriptions / Procedures
- Checklists
- Specialized Proprietary Software

Let's Assume We've Got the Process in a Flowchart – whether a High-Level chart



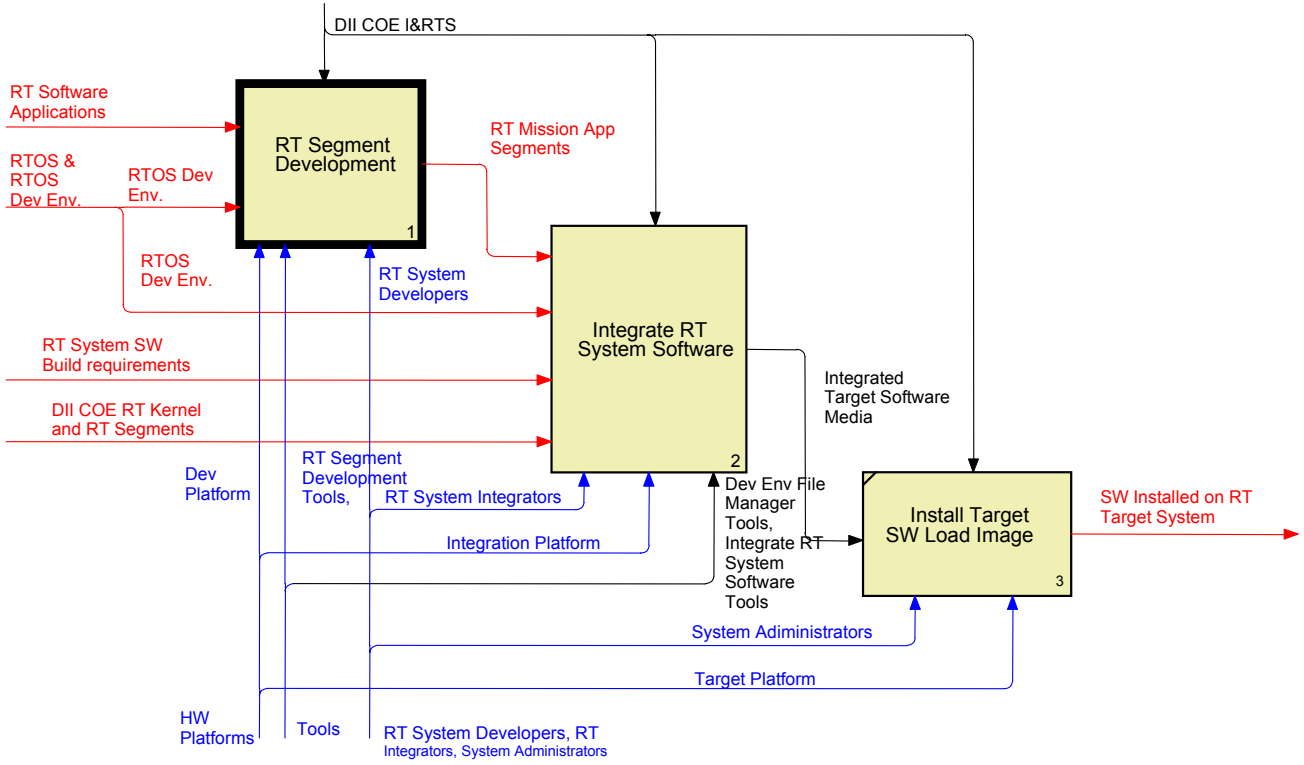
or a more-detailed one



What good is it?

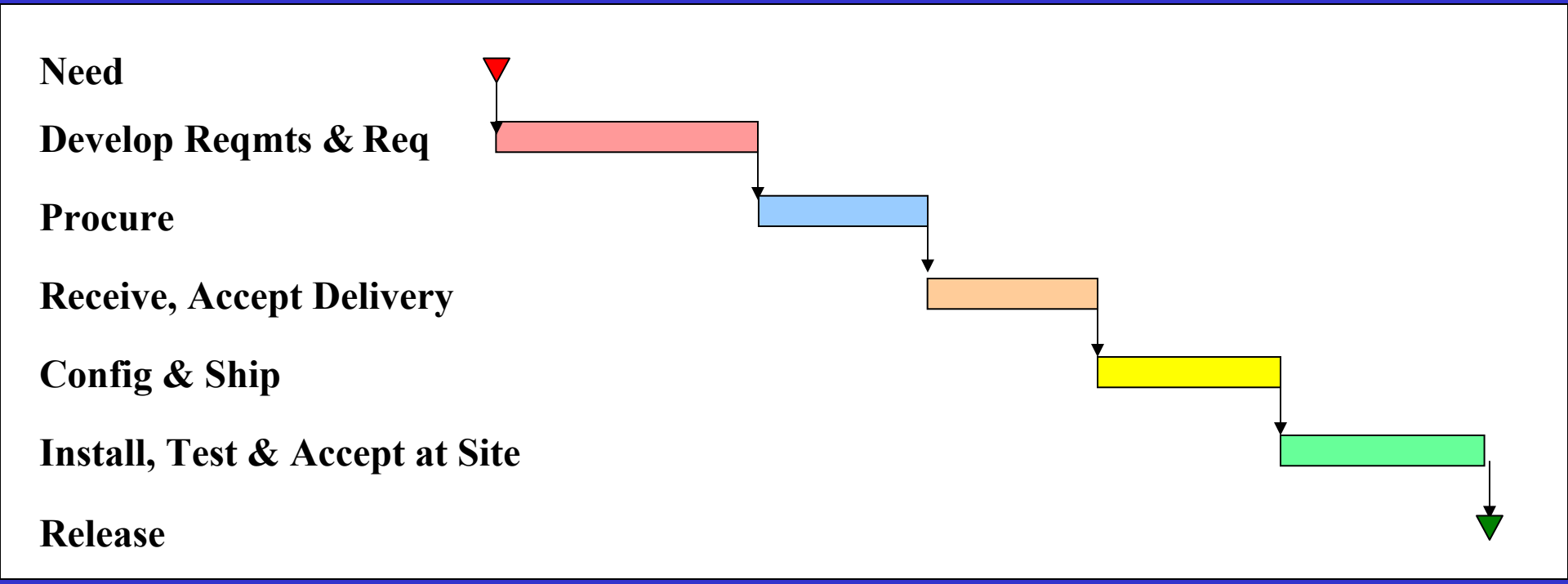
Does it tell anyone *how* to perform the process?

Let's Assume We've Got the Flow – in an IDEF representation



It certainly provides more details – but does it help a practitioner perform the process?

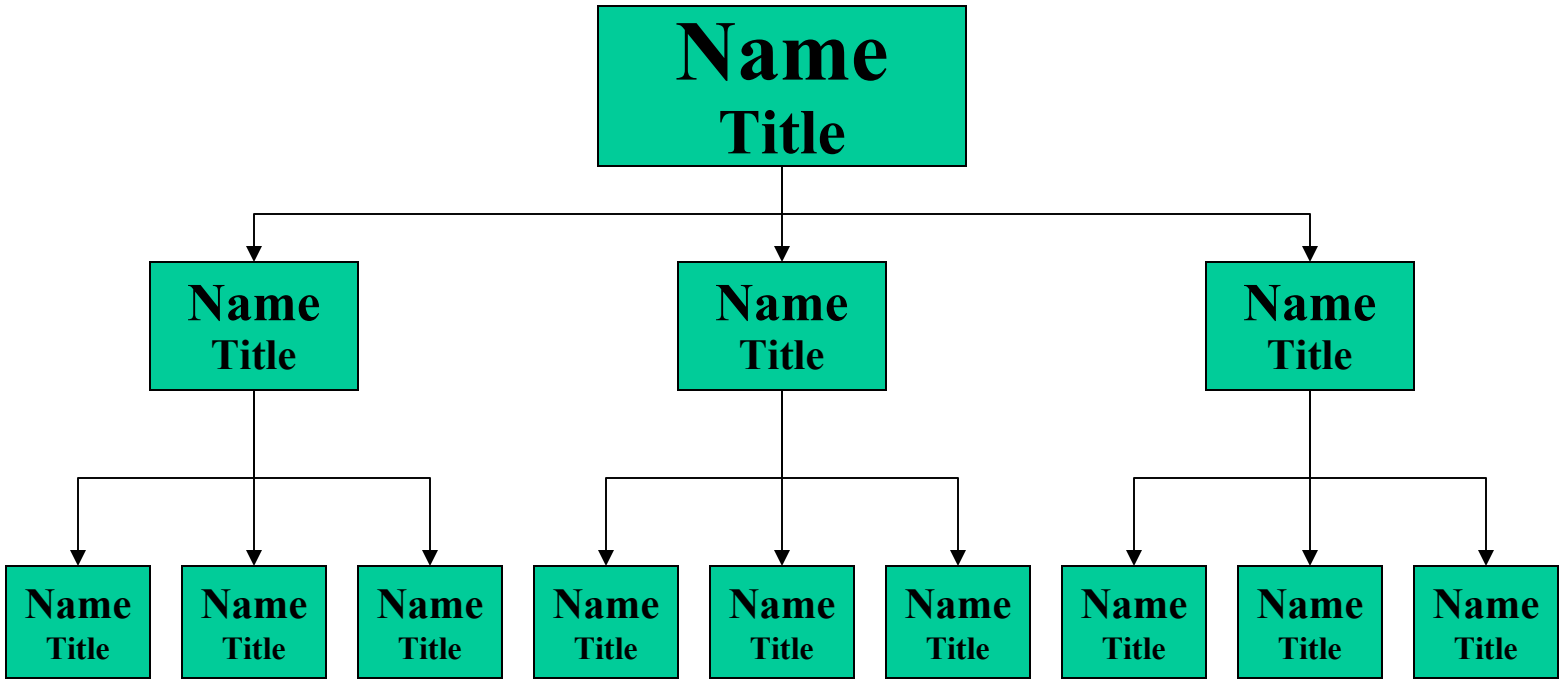
Let's Assume We've Got a Schedule – in a Gantt (or PERT) Chart



What good is this?

Does it tell anyone *how* to perform the process?

And Assume We've Got An Organization – Hierarchy, Role Descriptions, etc.



What good is *this*?
You can 'follow the money', know who's whose boss, but it doesn't tell you how to perform the process

And Assume We've Got Documentation – Process Descriptions, etc.

GUIDES (GD)			
6 Apr 2001	PD GD 001	Introduction to the SEPG	
15 May 2000	PD GD 002	SEP Tailoring Guide	
15 May 2000	RV GD 001	Review Meeting Guide	
3 Jan 2000	SW GD 002	Software Engineering Guide	SEPG
3 Jan 2000	SW GD 003	Qualification Test and Evaluation Guide	SWT
3 Jan 2000	SW GD 004	Customer Support Guide	SWS
3 Jan 2000	SW GD 007	Reuse Guide	SWE
3 Jan 2000	SW GD 011	Software Metrics Guide	
3 Jan 2000	SW GD 015	Deficiency Reports (DR) Guide	
29 Jan 2001	SW GD 018	Turn-in and Release Guide	SCM
3 Jan 2000	SW GD 019	Software Cost Estimating Guide	
31 Jul 2000	SW GD 020	Requirements Evaluation for Sustainment Systems Guide	
3 Jan 2000	SW GD 021	Save and Off-Site Procedures for Computer Mainframe Systems	SWC

The web-page and documents describe how to perform individual activities, but they usually don't tell you what the *process* is

When We Document Processes, We Tend to Forget Some Fundamental Questions

- **Why are we doing this?**

  What are the reasons for documenting processes?

- **Who's going to use this?**

  What kinds of people want/need documentation?

- **What will they use it for?**

  What purpose should the documentation serve?

- **How will they use it?**

  What will make the material really usable?

Here Are Some Fundamental Answers

The Questions

- Why are we doing this?
- Who's going to use this?
- What will they use it for?
- How will they use it?

And all three are involved in process improvement activities

Three main audiences for process documentation

- Practitioners – as reminders of what needs to be done, what is needed to do it, who does it, and how it should be done
- Newcomers – as training devices re what they do and where it fits in the overall operation
- Managers – as an overview of how the organization operates, where problems can occur, and what the impact of a problem is

A fourth audience is the external inspector – IG, GAO, appraiser (CMM, ISO, etc.), or even a customer – who evaluates the operation against some specific set of criteria.

What's Really Needed is Something that Will Help Understand the Process

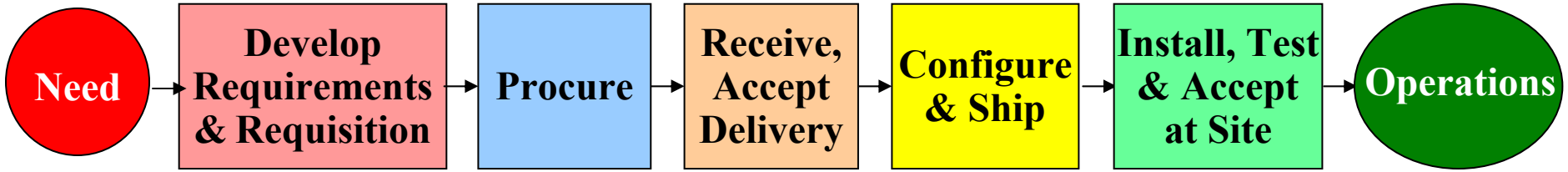
- What to Do
- How to Do It
- When to Do It
- Who's to Do It
- What's Needed to Do It

and maybe even

- Where to Do It
- Why It's Being Done

So finally … what's an EITVOX ?

Start with the Flow Chart



For each step, fill out additional attributes that describe the task more fully for both manager and practitioner

- What does the step do
- When is it done
- What's needed to do it
- How is it supposed to be done
- What's next

Extended EITVOX or *EEITVOX* chart

Header/ID **Name of current step, previous and n… …ps, name of next level up, reference to CMM o… …ther standard**		
E **Entry Criteria**	**V** **Verification**	**X** **Exit Criteria**
I **Inputs** **+ Sources & Specs**	**T** **Tasks**	**O** **Outputs** **+ Clients & Specs**
Resources: Tools	**Resources: Skills**	**Other Stakeholders**

Project/Process Logistics - 1 Phase/Activity Requirements & Requisition Activity Code Lvl/Nr 1.1 PA

Purpose / Value Summary Obtain and deploy hardware at all sites

Previous step Requirements Process	Verification/Measures	Next step 1.2 Procurement
Entry Criteria A requirements for a new item of HW or COTS SW is received (new type, additional, replacement)		eXit Criteria MOAs, ILSP are approved, rid is approved and ready for generating PO/PR
Inputs & suppliers/specs • Evaluations from System Engineering phase • CCB approved requirement • Architecture, performance and "ilities" requirements • Existing site survey	Tasks • Generate acquisition justification • Establish maintenance & sparing • Establish MOAs • Generate rid ———————————- • Perform site survey • Validate site survey • Determine site gaps	Outputs & customers/specs • rid - Logistics • updated site survey - (form v. 4 dated 4/98) • MOA - PM, CINC • ILSP - PM (270-50-9 Enclosure, Circular 400-120-1)
Tools, References, Notes Policy 270-59-9	Roles, Responsibilities, Skills	Other stakeholders ILSP - J4, CINCs Site survey - PM, site POC

In a completed EITVOX, these blocks would each have three columns, with hyperlinks to documents

Expanded ‘Structured’ Matrix

Project/Process _____ Phase/Activity _____ Actv Code Lvl/Nr___ PA ___

Purpose _____

Summary _____

Previous step Entry Criteria	Verification/Measures	Next step eXit Criteria
Inputs Suppliers Specs	Tasks	Outputs Customers Specs
Notes, References, Tools	Roles, Responsibilities, Skills	Other stakeholders

How Deep Do We Delve?

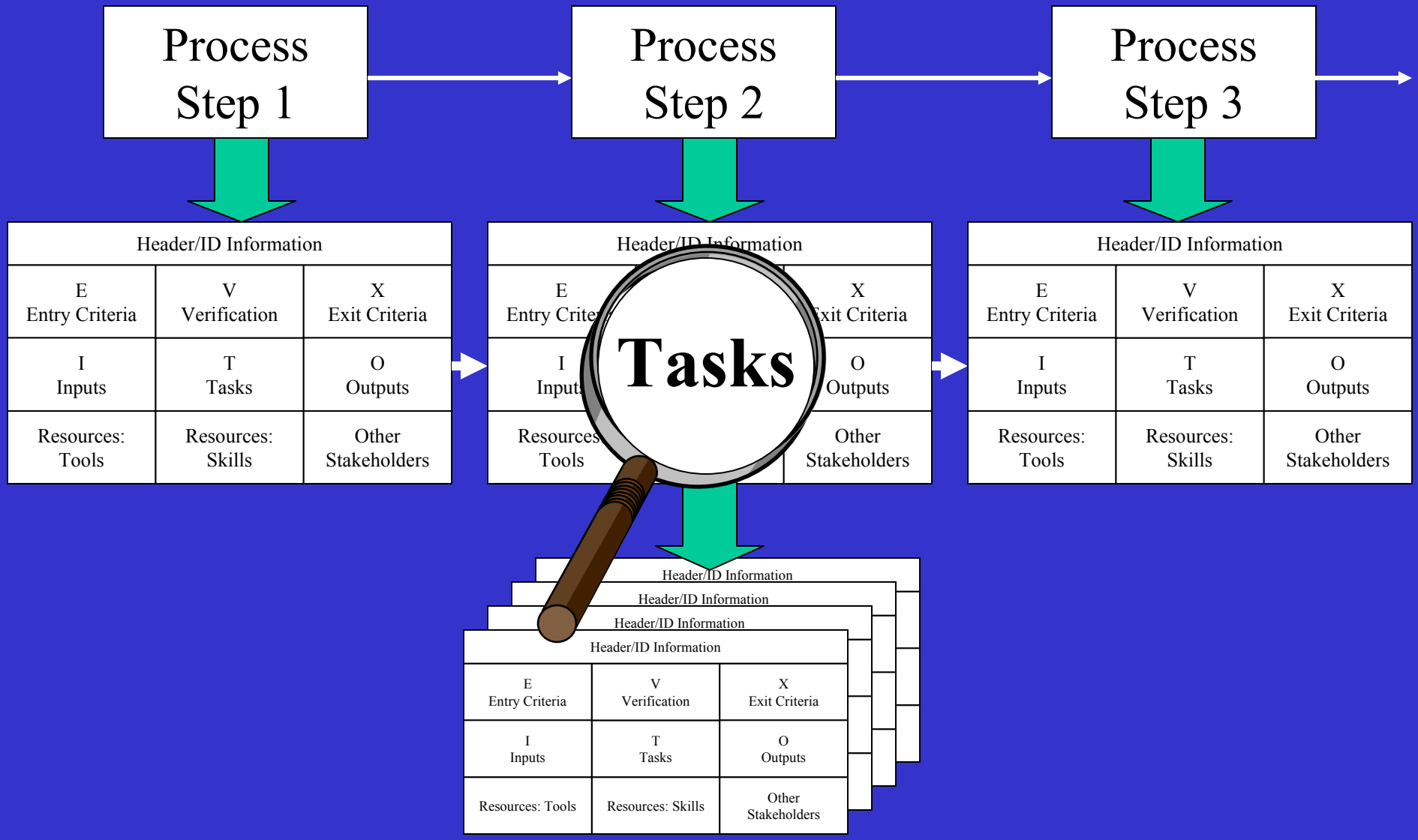
1. As a minimum, perform this definition for each major block of the high-level flow chart

Header/ID Information Name of current step, previous and next steps, name of next level up, reference to CMM or other standard		
E Entry Criteria	V Verification	X Exit Criteria
I Inputs + Sources & Specs	T Tasks	O Outputs + Clients & Specs
Resources: Tools	Resources: Skills	Other Stakeholders

2. Typically, perform this definition for each subtask identified in the Task block

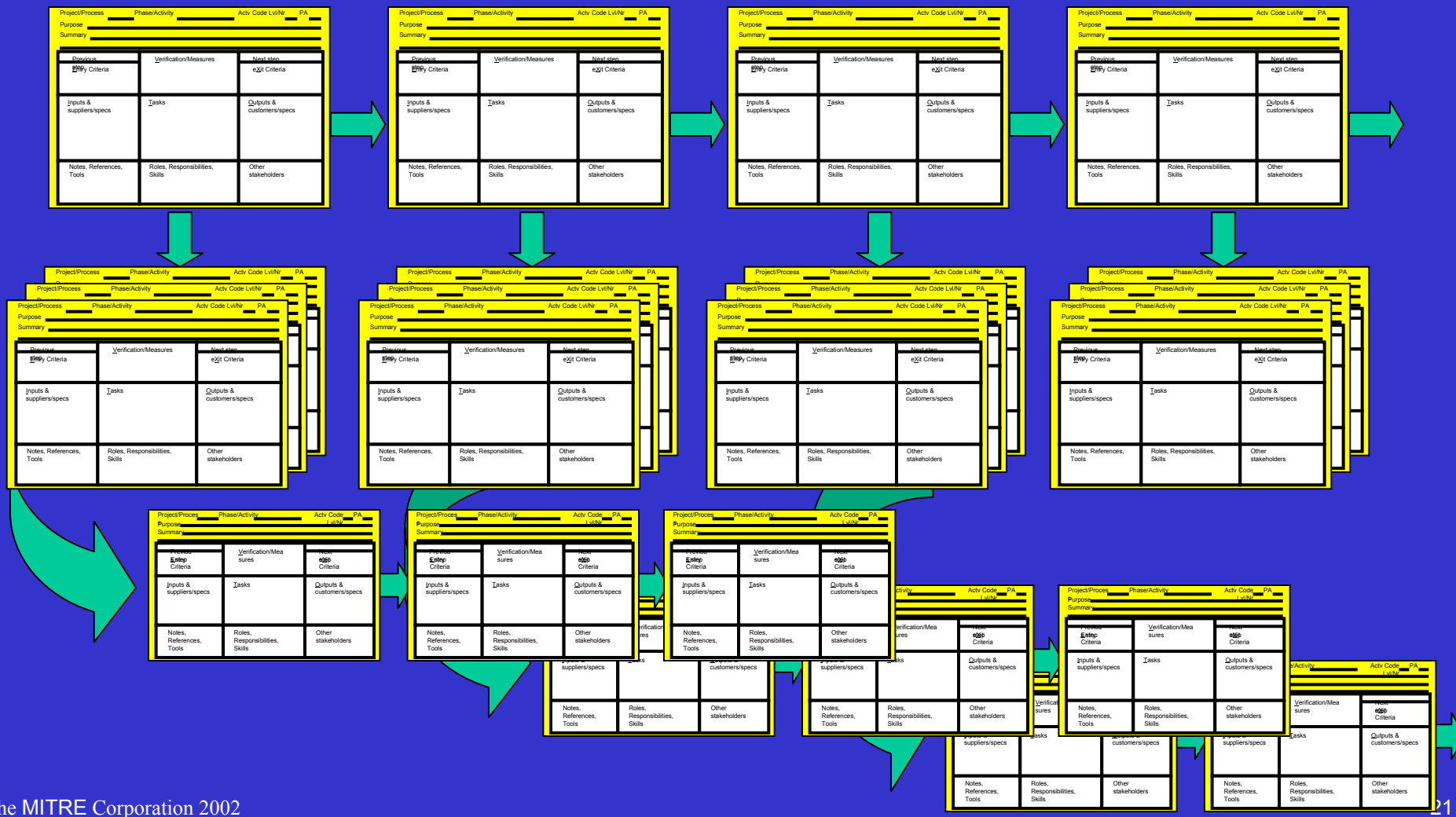
3. Optionally, perform this definition for each subtask identified in *their* Task blocks

EITVOXes as Hierarchies



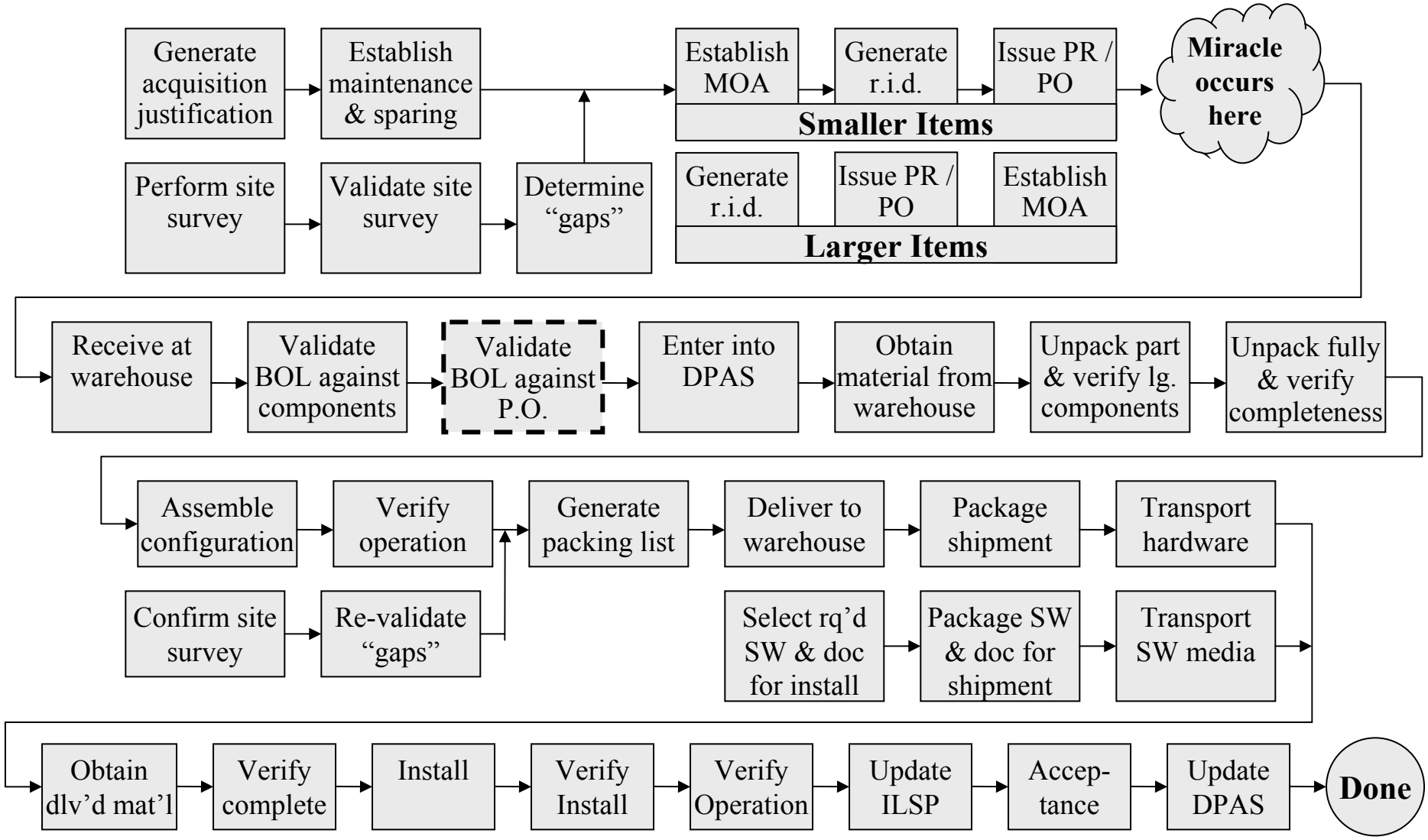
EITVOXes as Flowcharts

Provide visual reference for overall process operation

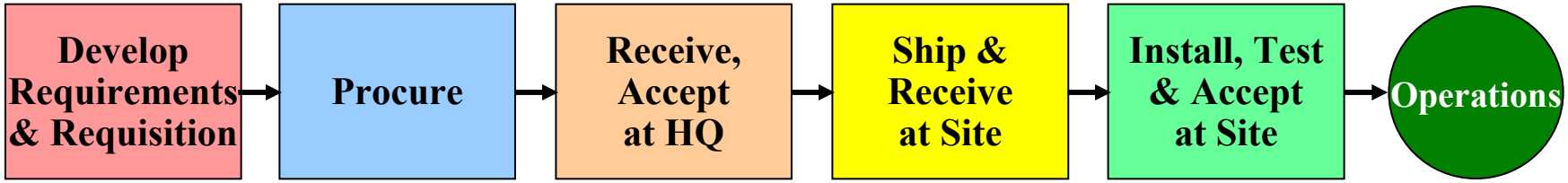


Process Definition

Logistics: Hardware Acquisition & Fielding
Entire Process as Elicited



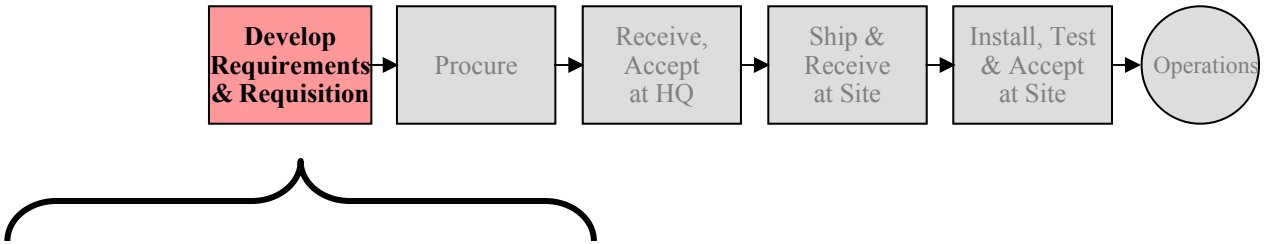
Logistics: Hardware Acquisition & Fielding
Abstracted High-Level Flow

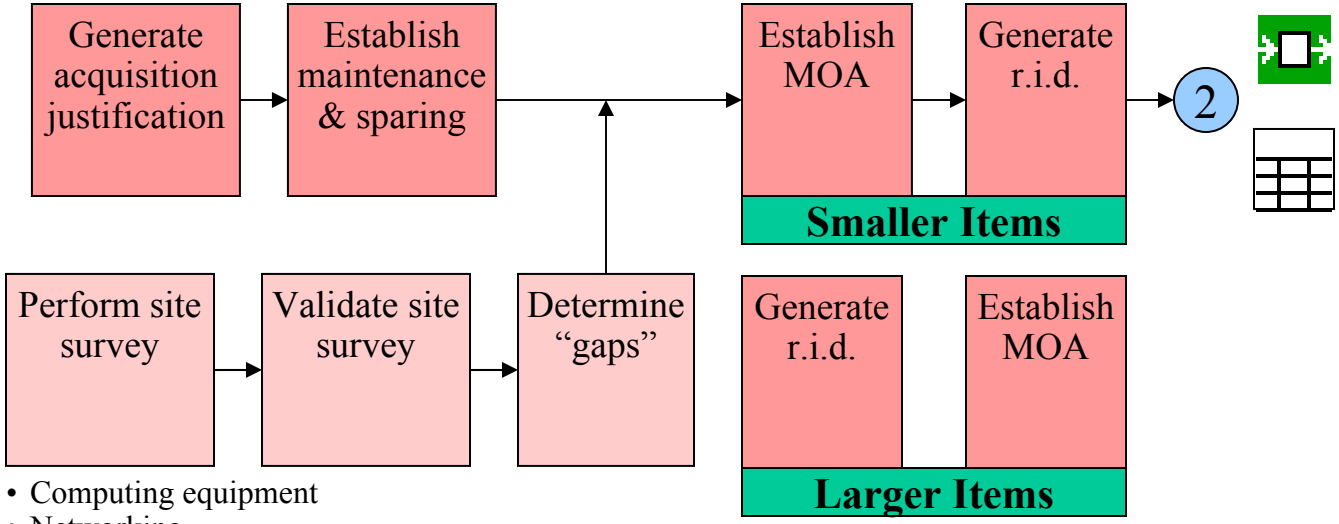


It took several iterations to get agreement on the high-level grouping

Once that was done, individual flowcharts and their corresponding EITVOXes could be developed

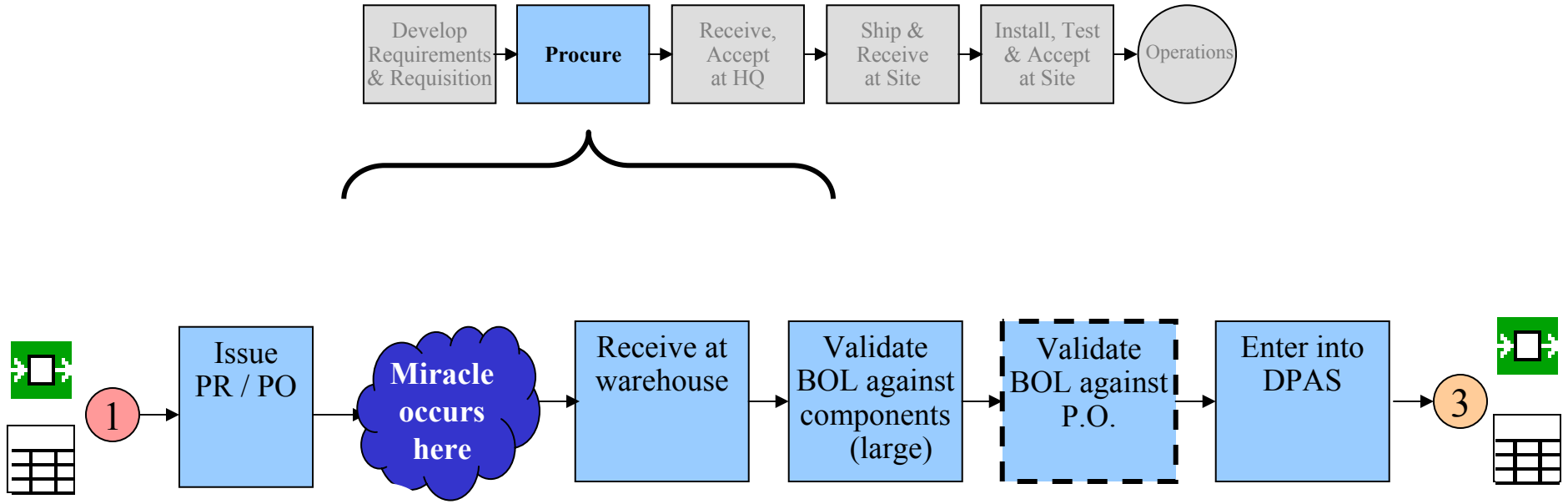
Logistics: Hardware Acquisition & Fielding
1: Develop Requirements & Requisition



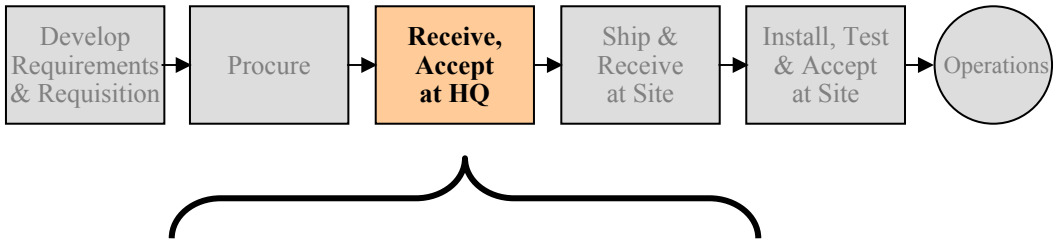


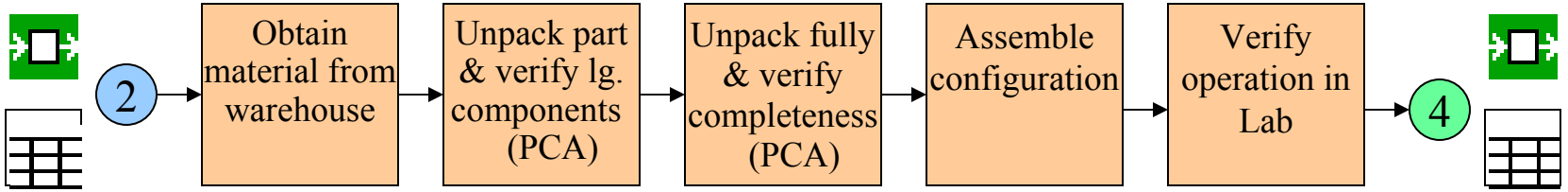
- Computing equipment
- Networking
- Security
- Environmentals (space & configuration, floor loading, power/HVAC)

Logistics: Hardware Acquisition & Fielding
2: Procure

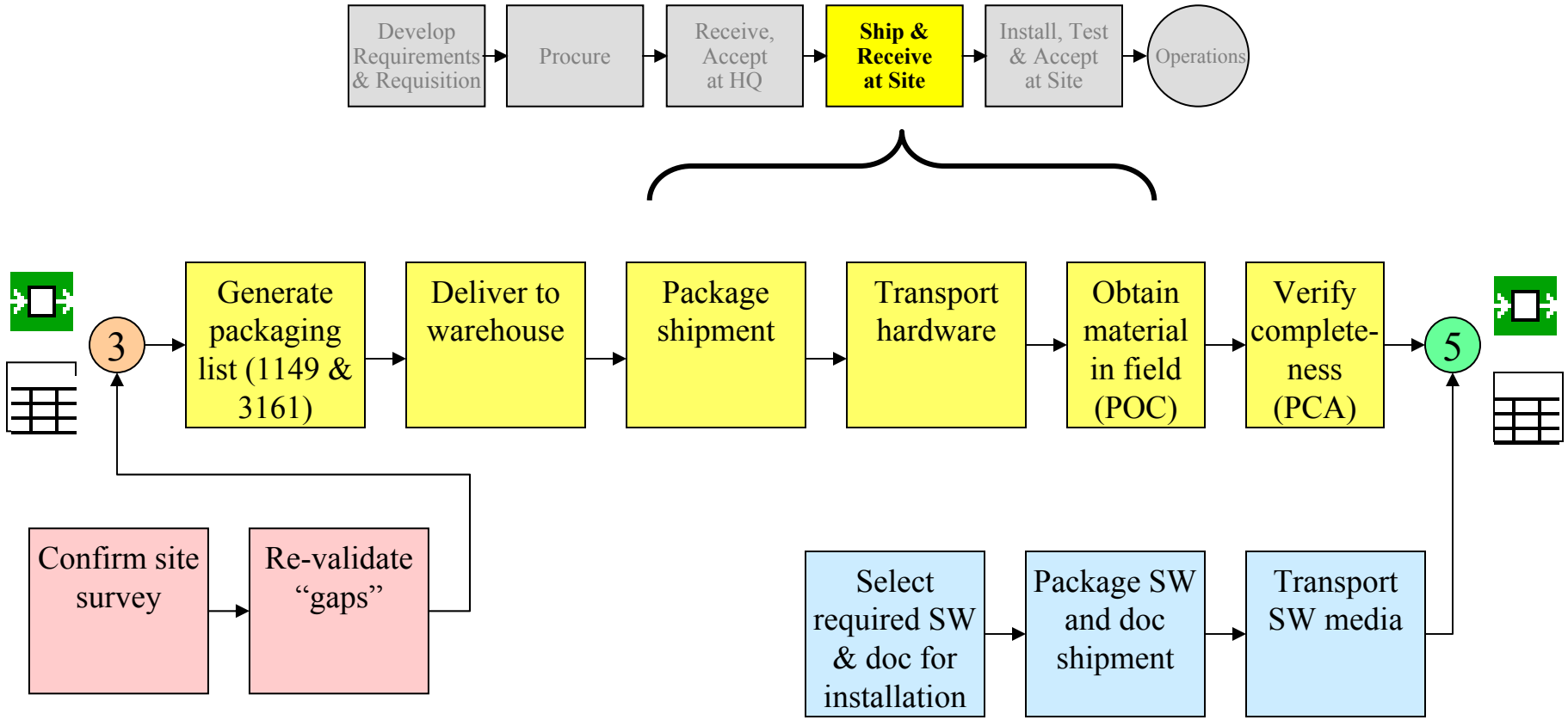


Logistics: Hardware Acquisition & Fielding
3: Receive, Accept at HQ

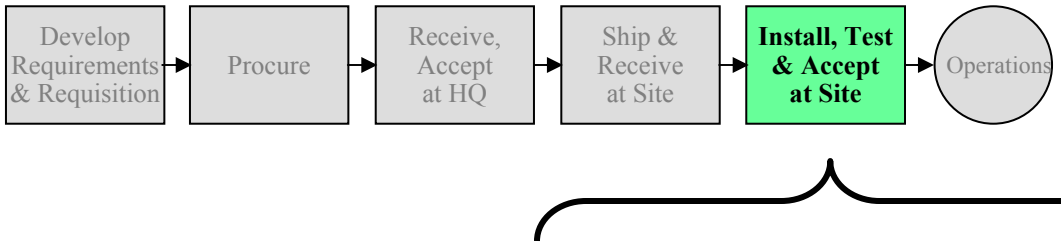


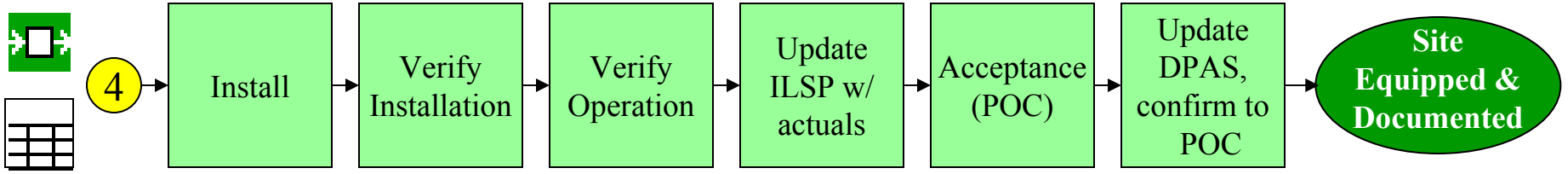


Logistics: Hardware Acquisition & Fielding
4: Ship & Receive at Site



Logistics: Hardware Acquisition & Fielding
5: Install, Test & Accept at Site

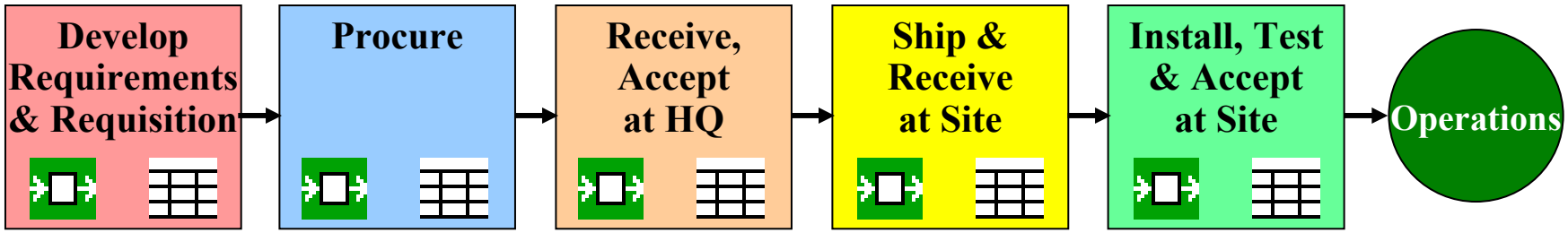




Using EITVOXes

EXPDNT – the EITVOX Extended Process Definition and Navigation Tool

Logistics: Hardware Acquisition & Fielding
Top View



Logistics: Hardware Acquisition EITVOX
High-Level View

Project / Process	Logistics - 1	Phase/Activity	Hardware Acquisition	Activity Code Lvl/Nr	1	PA	

Purpose / Value	Obtain and deploy hardware at all sites

Previous Step(s) Requirements Process **Entry Criteria** A requirement for a new item of HW is received (new type, additional, replacement)	**Process Verification & Measures**	Next Step(s) Operations / Enterprise Management **eXit Criteria** Hardware is installed and accepted at destination location
Inputs, Sources, Specs • CCB approved requirements • Architecture, performance and "ilities" requirements • Existing site survey	**Tasks** Develop Acquisition Requirements and Requisition Purchase, Receive, Document Receive, Accept at HQ Package, Ship and Receive at Site Install, Accept, Document at Site	**Outputs, Sources, Specs** • Documented Requirements • Documented Purchase & Receipt • Installed Hardware • Documented Acceptance • Updated Property Tracking System • Update Site Survey
References, Tools,Procedures Policy 270-59-9	**Skills & Training**	**Other Stakeholders** • ILSP - J4, CINCs • Site survey - PM, site POC

Miscellaneous Characteristics

- Dynamic DB-based version
  - pages formatted on-the-fly
  - DB platform is MS Access
  - back-end JSP based on industry freebies
  - front-end is standard browser
- Aspects of database
  - No replication of activity names
  - Hyperlinked documents in all fields
  - Parameters include
    - X-Y position of boxes – currently set to 5 across, 3 down
    - Box color – current range is 16
    - Font color – current range is 2 (black or white)
  - Box shape currently limited to rectangular
    - Scalable Vector Graphics (SVG) under consideration